The printing was performed using a printing machine 50 as shown in Fig. 16. Specifically, the printing machine 50 comprises a plate cleaning apparatus 52 (cleaning apparatus), an electrochemical treating apparatus 53 (renewal apparatus), a writing apparatus 55, an inking roller 56, and a blanket cylinder 58 around a plate cylinder 51 in the center. The printing plate material is arranged wound around the plate cylinder 51.

IN THE CLAIMS

Please cancel Claims 2, 3, 5 and 28-30.

Please amend the claims as in the attached marked-up copy to read as follows:

1. (Amended) A printing plate material comprising a substrate on the surface of which a coat layer containing a titanium oxide photocatalyst and at least one member selected from the group consisting of Fe^{2+}, Ni^{2+}, Mn^{2+}, Cr^{3+}, and Cu^{2+} in the form of a salt or an oxide, or a group VIB or IVA metal or an oxide thereof, is formed directly or with an intermediate layer intervening between the substrate and the coat layer.

4. (Amended) The printing plate material as claimed in claim 1, wherein the member selected from the group consisting of Fe^{2+}, Ni^{2+}, Mn^{2+}, Cr^{3+}, and Cu^{2+} in the form of a salt or an oxide is a compound oxide with titanium.

6. (Amended) The printing plate material as claimed in claim 1, wherein said group VIB metal is any of W, Mo. and Cr.

7. (Amended) The printing plate material as claimed in claim 1, wherein said group IVA metal is any of Ge, Sn, and Pb.

9. (Amended) The printing plate material as claimed in claim 1, wherein the surface of said coat layer is converted to a hydrophilic surface having a water contact angle of 10° or

less by irradiation with light having a wavelength at an energy level higher than a band gap energy level of the titanium oxide photocatalyst.

C 19 (cancelled)

6. (Amended) The printing plate material as claimed in claim 1, wherein the surface of said coat layer has hydrophobicity in terms of a water contact angle of at least 50° in its initial state and is convertible to a hydrophilic surface having a water contact angle of 10° or less by irradiation with light having a wavelength at an energy level higher than a band gap energy level of the titanium oxide photocatalyst.

9. (Amended) The printing plate material as claimed in claim 1, wherein at least a portion of the surface of said coat layer is convertible to a hydrophilic surface, and the hydrophilic surface is reconvertible to a hydrophobic surface having a water contact angle of at least 50° by irradiation with a flux of energy thereon.

C 20

10. (Amended) The printing plate material as claimed in claim 1, wherein at least a portion of the surface of the coat layer is convertible to a hydrophilic surface, and the hydrophilic surface is reconvertible to a hydrophobic surface having a water contact angle of at least 50° by a chemical conversion treatment thereon.

11. (Amended) The printing plate material as claimed in claim 1, wherein at least a portion of the surface of the coat layer is convertible to a hydrophilic surface, and the hydrophilic surface is reconvertible to a hydrophobic surface having a water contact angle of at least 50° by irradiation with a flux of energy thereon and by a chemical conversion treatment thereon.

12. (Amended) The printing plate material as claimed in claim 1, wherein said coat layer has a surface at least a part of which forms a part reconvertible to a hydrophilic surface by irradiation with light having a wavelength at an energy level higher than a band gap

energy of the titanium oxide catalyst and a hydrophobic part which is not irradiated with the light,

where the surface of the coat layer when subjected to light irradiation thereon and an electrochemical treatment thereon is hydrophobic.

14 ~~18~~. (Amended) The printing plate material as claimed in claim ~~16~~ 12, wherein the surface of said coat layer is convertible to a hydrophilic surface having a water contact angle of 10° or less by irradiation with light having a wavelength at an energy level higher than a band gap energy level of the titanium oxide photocatalyst.

~~19~~ 15. (Amended) The printing plate material as claimed in claim ~~16~~ 12, wherein the surface of said coat layer has hydrophobicity in terms of a water contact angle of at least 50° in its initial state and is convertible to a hydrophilic surface having a water contact angle of 10° or less by irradiation with light having a wavelength at an energy level higher than a band gap energy level of the titanium oxide photocatalyst.

21. (Amended) The printing plate material as claimed in claim 1, wherein at least a portion of the surface of said coat layer is hydrophilic surface, and the hydrophilic surface is reconvertible to a hydrophobic surface having a water contact angle of at least 50° by light irradiation thereon and an electrochemical treatment thereon.

22. (Amended) The printing plate material as claimed in claim 1, wherein the surface of said coat layer is hydrophilic surface, and the hydrophilic surface is reconvertible to a hydrophobic surface having a water contact angle of at least 50° by cleaning the surface and renewing the surface of the coat layer containing the titanium oxide catalyst to renew the catalyst.

21 ~~24~~. (Amended) The printing plate material as claimed in claim 1, which further comprises on said coat layer a coating layer comprising a compound which can be

C 23 (concluded) decomposed by irradiation with light having a wavelength at an energy level higher than a band gap energy level of the titanium oxide photocatalyst.

23 ~~27~~. (Amended) The printing plate material as claimed in claim ~~26~~ 22, wherein the oxide is a compound oxide with titanium.

~~31~~ 24. (Amended) The printing plate material as claimed in claim ~~24~~ 21, wherein the surface of said coat layer has hydrophobicity in terms of a water contact angle of at least 50° in its initial state.

C 24

~~32~~ 25. (Amended) The printing plate material as claimed in claim ~~24~~ 21, wherein the surface of said coat layer is exposable and is convertible to a hydrophilic surface having a water contact angle of 10° or less by irradiation with the light.

~~33~~ 26. (Amended) The printing plate material as claimed in claim ~~24~~ 21, wherein the surface of said coat layer has hydrophobicity in terms of a water contact angle of at least 50° in its initial state and is convertible to a hydrophilic surface having a water contact angle of 10° or less by irradiation with the light.

~~34~~ 27. (Amended) The printing plate material as claimed in claim ~~33~~ 26, wherein the hydrophilic surface serves as a non-printing image portion and a hydrophobic surface of the coating layer serves as a printing image portion.

and D5 35. (Amended) The printing plate material as claimed in claim 1, wherein at least a portion of the surface of said coat layer is convertible to a hydrophilic surface, and the hydrophilic surface is reconvertible to a hydrophobic surface having a water contact angle of at least 50° by a chemical reaction or strong non-chemical interaction with a compound having an organic hydrophobic group in its molecule.

C 25

33 ~~37~~. (Amended) The printing plate material as claimed in claim ~~31~~ 35, wherein said compound having an organic hydrophobic group in its molecule is a fatty acid dextrin.

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34 31
~~38~~. (Amended) The printing plate material as claimed in claim ~~35~~, wherein said compound having an organic hydrophobic group in its molecule is an organic titanium compound.

35 31
~~39~~. (Amended) The printing plate material as claimed in claim ~~35~~, wherein said compound having an organic hydrophobic group in its molecule is an organic silane compound.

C25 (continued) but D6

40. (Amended) The printing plate material as claimed in claim 1, which can be repeatedly used by repeating the steps of:

preparing a printing plate in which a latent image, which comprises a hydrophobic portion which is not irradiated with light and a portion which is irradiated with light to be changed to a hydrophilic surface, is formed by irradiating the printing plate material with light having an energy higher than a band gap energy of the titanium oxide photocatalyst, and

renewing the printing plate material by allowing at least the hydrophilic portion on the surface of the plate material to chemically react or strongly non-chemically interact with a compound having an organic hydrophobic group in its molecule after removing an ink from the surface of the printing plate material after completion of printing.

41. (Amended) An apparatus for imaging the printing plate material as claimed in claim 1, on which an image can be written using a writing apparatus which comprises a light source for emitting light having an energy higher than a band gap energy of the titanium oxide photocatalyst, and which directly forms an image on the plate material based on digital data.

37
~~42~~. (Amended) A method for renewing a printing plate material as claimed in claim 1, the method comprising the steps of:

C

cleaning a surface of the coat layer containing the titanium oxide photocatalyst after completion of printing; and

then renewing the coat layer containing a titanium oxide photocatalyst.

~~43~~ 39. (Amended) A method for renewing a printing plate material as in the printing plate material of claim 1, the method comprising the steps of:

cleaning a surface of the coat layer containing the titanium oxide photocatalyst after completion of printing; and

then renewing the coat layer containing a titanium oxide photocatalyst by irradiation with a flux of energy thereon.

C 25 (continued)

~~44~~ 40. (Amended) A method for renewing a printing plate material as in the printing plate material of claim 1, the method comprising the steps of:

cleaning a surface of the coat layer containing the titanium oxide photocatalyst after completion of printing; and

then renewing the coat layer containing a titanium oxide photocatalyst by a chemical conversion treatment thereon.

~~45~~ 41. A method for renewing a printing plate material as in the printing plate material of claim 1, the method comprising the steps of:

cleaning a surface of the coat layer containing the titanium oxide photocatalyst after completion of printing; and

then renewing the coat layer containing a titanium oxide photocatalyst by irradiation with a flux of energy thereon and a chemical conversion treatment thereon in combination.

~~46~~ 18. (Amended) A method for renewing a printing plate material as in the printing plate material of claim ~~16~~ 12, the method comprising at least the steps of:

cleaning a surface of the coat layer containing the titanium oxide photocatalyst after completion of printing; and

then renewing the coat layer containing a titanium oxide photocatalyst by light irradiation thereon and an electrochemical treatment thereon.

C 25 (concluded)

~~47~~ 38. (Amended) The method for renewing a printing plate material as claimed in claim ~~42~~ 37, wherein the step of cleaning the surface of the coat layer and the step of renewing the coat layer are performed in a printing machine.

42 ~~50~~. (Amended) A method for preparing and renewing a printing plate material, the method comprising the steps, which are performed in a printing machine, of preparing a printing plate by irradiation of a surface of a coat layer of a printing plate material as claimed in claim 1 with light having a wavelength having an energy higher than a band gap energy of the titanium oxide photocatalyst,

C 26

cleaning the surface of the coat layer, and

renewing the coat layer.

sub D7

51. (Amended) A method for preparing and renewing a printing plate material, the method comprising the steps, which are performed in a printing machine, of preparing a printing plate by irradiation of a surface of a coat layer of a printing plate material as claimed in claim 24 with light having a wavelength having an energy higher than a band gap energy of titanium oxide photocatalyst to cause the above described surface of the coat layer in the irradiated region to emerge,

D

cleaning the outermost surface including the surface of the coat layer which has emerged, and

renewing the coating layer are performed in a printing machine.